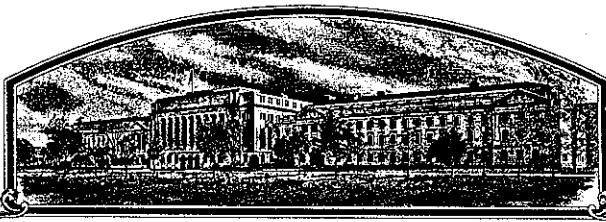


No.

8500106



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**HybriTech Seed International, Inc.**

Whereas, THERE HAS BEEN PRESENTED TO THE  
**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Rodeo'

In Testimony Whereof, I have hereunto set  
my hand and caused the seal of the Plant  
Variety Protection Office to be affixed  
at the City of Washington, D. C.  
this 31st day of January in  
the year of our Lord one thousand nine  
hundred and eighty-nine.

Attest:

*Kenneth H. Evans*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*Clayton Yentler*  
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE

APPROVAL EXPIRES 4-30-85

FORM APPROVED: OMB NO. 0681-0065

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S) <b>HYBRITECH SEED INTERNATIONAL, INC.</b> <del>Rohm and Haas Seeds Inc.</del>		2. TEMPORARY DESIGNATION <b>77W4093</b>	3. VARIETY NAME <b>Rodeo</b>
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) <b>5912 N. MERIDIAN WICHITA, KS 67204</b> <del>Independence Mall West Philadelphia, PA 19105</del>		5. PHONE (Include area code) <b>(316) 755-1249</b> <del>(215) 592-3113</del>	FOR OFFICIAL USE ONLY PVPO NUMBER <b>8500106</b>
6. GENUS AND SPECIES NAME <b>Triticum aestivum L.</b>	7. FAMILY NAME (Botanical) <b>Gramineae</b>		FILING DATE <b>4/12/85</b> TIME <b>8:30</b> <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.
8. KIND NAME <b>Common Wheat</b>	9. DATE OF DETERMINATION <b>September, 1980</b>		FEES RECEIVED AMOUNT FOR FILING \$ <b>1,800</b> DATE <b>4/12/85</b> AMOUNT FOR CERTIFICATE \$ <b>200.00</b> DATE <b>Nov. 21, 1988</b>
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) <b>Corporation</b>			12. DATE OF INCORPORATION <b>February, 1983</b>
11. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>Delaware</b>			13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS <del>Dr. James E. Stroike</del> <b>JOHN ERICKSON</b> <b>WHEAT RESEARCH DIRECTOR</b> <b>HYBRITECH SEED INTERNATIONAL, INC.</b> <b>5912 N. MERIDIAN</b> <b>WICHITA, KS 67204</b> PHONE (Include area code): <b>(316) 755-1249</b> <del>(215) 592-3113</del>
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED			
a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)			
b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement.			
c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.)			
d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety.			
e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. (SEE EXHIBIT A).			
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input checked="" type="checkbox"/> No			
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> Yes <input type="checkbox"/> No		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified	
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No			
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input type="checkbox"/> No			
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT <i>James E Stroike</i>		DATE <b>3/25/85</b>	
SIGNATURE OF APPLICANT		DATE	

## EXHIBIT A

ORIGIN AND BREEDING HISTORY OF THE VARIETY

Rodeo is the result of hybridization, individual plant selection, and individual head selection from the three-way cross: Scout\*5/Agent//Sturdy/3/Centurk made by the Northrup King Company. Our pedigree for this variety is N5415-11N-3N-ON. The experimental designation was 77W4093.

We made the cross in the greenhouse at Eden Prairie, Minnesota in 1972. The female parent, Scout\*5/Agent//Sturdy, was an F<sub>1</sub> made in the greenhouse during 1971. The male parent was Centurk or NB66425. In 1973 the F<sub>1</sub> was grown in the field at Eden Prairie and assigned the cross number, N5415. The F<sub>2</sub> was space planted at York, Nebraska, for individual plant selection. Plant progeny rows were grown at York for the F<sub>3</sub> and F<sub>4</sub>. The F<sub>4</sub> row was bulked in 1976 to provide seed for 1977 preliminary yield trials (F<sub>5</sub>) at Pratt, Kansas and York, Nebraska. Intermediate yield trials were planted in 1977-78 by using bulk seed from the preliminary trial.

Twelve heads were selected from the 1977 Kansas trial and planted at Yuma, Arizona in 1977-78 as F<sub>6</sub> head-rows to begin a purification program. Five of the twelve head-rows were saved for further testing in advanced yield trials in 1979 and 1980. Based on observations at Yuma and York one head-row was identified with shorter height and lodging resistance. This line was increased at Yuma in the 1980-81 season as 81AWH 31002 (F<sub>8</sub>). Seed origin for this increase was 79AWH 20103 (F<sub>7</sub>) which was a small multiplication of the F<sub>6</sub> head-row selected (78AWH10348). Another increase was made at Yuma in 1982 as 82AWH 40001 to provide breeders seed.

Rodeo, 77W 4093, was entered in the 1982 and 1983 Southern Regional Performance Nursery for testing experimental hard red winter varieties in the Great Plains. In 1981-82 SRPN trials with coefficients of variation that were 17% or less, the average yield of Rodeo over 18 sites was 4435 kg/ha or 122% of Scout. The 1982-83 SRPN average yield for Rodeo, across 21 sites with coefficients of variation that were 17% or less, was 4135 kg/ha or 123% of Scout 66.

Rodeo is uniform and stable except for a taller variant with similar plant characteristics that was rogued from the breeders seed increases. The estimated frequency of this variant is less than one plant in 20,000 plants.

Foundation seed was produced in Texas during 1982-83. This seed lot, 7644, was inspected and approved by the Texas Department of Agriculture seed Certification program.

In July, 1984, Rohm and Haas Seeds, Inc. purchased the hard red winter wheat breeding germ plasm from Northrup King Company. The ownership of Rodeo was transferred to Rohm and Haas Seeds at this time.

## EXHIBIT B

NOVELTY STATEMENT

Rodeo is most similar to "Centurk" or "Centurk 78", but differs for plant heights, heading date, and bake mix time. On the average Rodeo is 2-3 cm shorter than Centurk or Centurk 78. Under certain environmental conditions the height difference may be small or none, compared to irrigated or high rainfall conditions where the difference can be 8-12 cm. Heading date for Rodeo averages 1-2 days earlier than heading date for Centurk or Centurk 78. Bake mix time for Rodeo is shorter than that for Centurk or Centurk 78. Often differences of 2-3 minutes are observed.

## EXHIBIT B

NOVELTY STATEMENT

Rodeo is most similar to 'Centurk' or 'Centurk 78', but differs for leaf rust reaction, glume shoulder shape, and the quality characteristics of water absorption and mix time as measured on the Farinograph or during the baking process.

Rodeo displayed greater tolerance to leaf rust than Centurk over several years and locations. The glume shoulder shape for Rodeo is oblique, while that for Centurk is rounded to square. The water absorption level of flour from Rodeo is several percentage points higher for Rodeo than for Centurk. The bake mix time for Rodeo is several minutes shorter than for Centurk.

Table 1. Heading dates for Rodeo in comparison to check varieties in replicated small plot trials at York, NE and Pratt, KS from 1978-1984.

Location and Year	Heading Date (Days from Jan. 1)		
	Rodeo	Centurk <sup>1/</sup>	Vona
<u>York, NE</u>			
1978	150	151	149
1979	152	153	151
1980	144	144	141
1981	134	137	129
1982	150	151	147
1983	<u>152</u>	<u>156</u>	<u>149</u>
6 Year Average	147.0	148.7	144.3
<u>Pratt, KS</u>			
1978	137	139	134
1979	137	139	135
1980	138	138	138
1984	<u>139</u>	<u>140</u>	<u>138</u>
4 Year Average	137.8	139.0	136.3

<sup>1/</sup> Centurk 78 check replaced Centurk in 1980-1984 trials.

Table 2. Relative maturity for Rodeo in comparison to check varieties grown in replicated small plot trials at York, NE and Pratt, KS from 1980-1984.

Location and Year	Relative Maturity (1-9)		
	Rodeo	Centurk <sup>1/</sup>	Vona
<u>York, NE</u>			
1980	5	5	4
1981	4	5	4
1983	<u>5</u>	<u>4</u>	<u>3</u>
3 - Year Average	4.7	4.7	3.7
<u>Pratt, KS</u>			
1984	5	5	5

<sup>1/</sup> Centurk 78 check replaced Centurk in 1980-1984 trials.

Table 3. Height for Rodeo in comparison to check varieties grown in replicated small plot trials at York, NE and Pratt, KS from 1978-1984.

Location and Year	Height (cm)		
	Rodeo	Centurk <sup>1/</sup>	Vona
<u>York, NE</u>			
1978	96	100	82
1979	97	90	92
1980	98	96	92
1981	95	97	85
1982	95	101	85
1983	<u>108</u>	<u>120</u>	<u>109</u>
6 - Year Average	98.2	100.7	90.8
<u>Pratt, KS</u>			
1978	100	98	88
1979	105	113	103
1980	105	103	91
1984	<u>90</u>	<u>98</u>	<u>85</u>
4 - Year Average	100.0	103.0	91.8

<sup>1/</sup> Centurk 78 check replaced Centurk in 1980-1984 trials.



Table 4. Winter survival ratings for Rodeo in comparison to check varieties grown in replicated small plot trials at York, NE from 1978-1983.

Year	Winter Survival (0-9) <sup>1/</sup>		
	Rodeo	Centurk <sup>2/</sup>	Vona
1978	8	8	5
1979	9	9	8
1980	9	9	9
1982	<u>9</u>	<u>8</u>	<u>7</u>
4 - Year Average	8.8	8.5	7.3

<sup>1/</sup> Winter survival scale where 9 is best with 90-100% survival.

<sup>2/</sup> Centurk 78 check replaced Centurk in 1980-1982 trials.

Table 5. Field ratings for leaf and stem rust for Rodeo in comparison to check varieties grown in replicated small plot trials at York, NE and Pratt, KS.

Location and Year	Leaf Rust			Stem Rust		
	Rodeo	Centurk <sup>1/</sup>	Vona	Rodeo	Centurk <sup>1/</sup>	Vona
<u>York, NE</u>						
1978	5MS	80S	20S	R	R	R
1979	TR	20S	10S	R	R	R
1981	TMS	5MS	10S	-	-	-
1982	5MR	5MR	20S	R	R	R
1983	5MS	10S	10S	5S	TS	TS
<u>Pratt, KS</u>						
1978	TR	20S	10S	R	R	R
1979	TR	20MS	5MS	-	-	-

<sup>1/</sup> Centurk 78 check replaced Centurk in 1980-1983 trials.

Table 6. Quality characteristics of Rodeo and checks at York, Nebraska in 1979 and 1980.

Characteristics	1979			1980		
	Rodeo	Centurk	Vona	Rodeo	Centurk	Vona
Wheat Protein	13.80	13.85	13.10	13.75	13.65	13.20
Test Weight	60.8	61.9	61.2	62.3	62.3	61.8
Milling Ext. %	67.1 F	69.2 G-	68.9 G-	68.2 G-	68.7 G-	71.4 G
Farinograph						
Absorption	63.8	61.5	60.4	63.4	60.8	60.6
Peak	5.75	6.75	8.25	4.00	8.00	6.75
Stability	8.00	14.50	28.00	7.00	22.00	16.50
MTI	50	25	20	55	20	25
Valorimeter	61	66	74	56	72	68
Flour						
Ash	.392	.384	.355	.352	.357	.330
Protein	12.50	12.70	11.90	12.60	12.45	12.20
Bake						
Absorption	67.0 VG-	65.0 G	63.0 G	67.0 VG-	63.0 G	63.5 G
Mix	3.50 G	5.75 G-	5.75 G-	2.75 G-	5.75 G-	4.25 G
Dough	5 G-	6 G	6 G	5 G-	4 F	6 G
Loaf Vol. cc	940 G	1000 VG	1000 VG	885 G-	895 G-	955 G
Crumb Grain	4 F	5 G-	6 G	5 G-	4 F	6 G
Crumb Texture	5 G-	5 G-	6 G	5 G-	4 F	6 G
Crumb Color	97 G	97 G	97 G	97 SD	97 SD	97 G
Bake Score	26 G-	29 G-	31 G	25 G	22 F	30 G
Overall Score	53 G-	57 G-	61 G-	51 G-	50 G-	60 G

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Table 7. Quality characteristics of Rodeo and checks at Pratt, KS in 1983.

Characteristics	Rodeo	Centura	Sage	Arkan	Colt
Wheat Protein	13.26	13.19	13.22	13.72	12.27
Test Weight	63.0	62.9	63.5	61.6	61.8
Milling Ext. %	69.0 G-	71.1 G	73.5 G	72.3 G	72.9 G
Farinograph					
Absorption	66.0	61.2	63.2	61.4	58.2
Peak	4.25	8.25	4.00	7.25	4.00
Stability	7.00	17.00	6.00	11.00	7.00
MFI	40	20	50	35	60
Valorimeter	56	73	54	67	56
Flour					
Ash	.398	.409	.429	.411	.407
Protein	11.77	11.86	11.80	11.47	11.56
Bake					
Absorption	68.0 VG-	64.0 G	66.0 G	64.5 G	61.0 G-
Mix	3.00 G-	5.50 VG	3.25 G-	4.00 G	4.00 G
Dough	5 G-	6 G	5 G-	6 G	6 G
Loaf Vol. cc	890	960 G	970 G	950 G	890 G-
Crumb Grain	5 G-	6 G	5 G-	5 G-	5 G-
Crumb Texture	5 G-	6 G	5 G-	6 G	5 G-
Crumb Color	97	97+	96+	96+	97
Bake Score	25 G-	32 G	26 G-	29 G-	27 G-
Overall Score	52 G-	63 G+	51 G-	56 G-	53 G-

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY  
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) <b>Rohm and Haas Seeds, Inc.</b>	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <b>Independence Mall West Philadelphia, PA 19105</b>	PVPO NUMBER <b>8500106</b>
	VARIETY NAME OR TEMPORARY DESIGNATION <b>Rodeo</b>

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (e.g., 089 or 09 ) when number is either 99 or less or 9 or less.

## 1. KIND:

1 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

## 2. TYPE:

2 1 = SPRING 2 = WINTER 3 = OTHER (Specify) 2 1 = SOFT 3 = OTHER (Specify)  
2 = HARD

2 1 = WHITE 2 = RED 3 = OTHER (Specify)

## 3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING  LAST FLOWERING

## 4. MATURITY (50% Flowering):

01 NO. OF DAYS EARLIER THAN 7 1 = ARTHUR 2 = SCOUT 3 = CHRIS  
02 NO. OF DAYS LATER THAN 8 4 = LEMHI 5 = NUGAINES 6 = LEEDS  
7 = Centurk 8 = Vona

## 5. PLANT HEIGHT (From soil level to top of head):

099 CM. HIGH  
09 CM. TALLER THAN 8 7 = Centurk 8 = Vona  
02 CM. SHORTER THAN 7 1 = ARTHUR 2 = SCOUT 3 = CHRIS  
4 = LEMHI 5 = NUGAINES 6 = LEEDS

## 6. PLANT COLOR AT BOOTING (See reverse):

2 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

## 7. ANTHUR COLOR:

1 1 = YELLOW 2 = PURPLE

## 8. STEM:

1 Anthocyanin: 1 = ABSENT 2 = PRESENT 2 Waxy bloom: 1 = ABSENT 2 = PRESENT  
 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT 1 Internodes: 1 = HOLLOW 2 = SOLID  
03 NO. OF NODES (Originating from node above ground)  CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

## 9. AURICLES:

2 Anthocyanin: 1 = ABSENT 2 = PRESENT 2 Hairiness: 1 = ABSENT 2 = PRESENT

## 10. LEAF:

1 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 2 Flag leaf: 1 = NOT TWISTED 2 = TWISTED  
3 = OTHER (Specify): 2 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT  
 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT  
14 MM. LEAF WIDTH (First leaf below flag leaf) 30 CM. LEAF LENGTH (First leaf below flag leaf)

## 11. HEAD:

☐ 3 Density: 1 = LAX 2 = DENSE 3 = Middense ☐ 1 Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE  
 4 = OTHER (Specify) \_\_\_\_\_  
☐ 4 Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED  
☐ 1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED  
 5 = BROWN 6 = BLACK 7 = OTHER (Specify) \_\_\_\_\_  
☐ 0 ☐ 8 CM. LENGTH ☐ 0 ☐ 9 MM. WIDTH

## 12. GLUMES AT MATURITY:

☐ 2 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)  
 3 = LONG (CA. 9 mm.) ☐ 2 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)  
 3 = WIDE (CA. 4 mm.)  
☐ 2 Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED  
 4 = SQUARE 5 = ELEVATED 6 = APICULATE ☐ 3 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

## 13. COLEOPTILE COLOR:

☐ 1 1 = WHITE 2 = RED 3 = PURPLE

## 14. SEEDLING ANTHOCYANIN:

☐ 1 1 = ABSENT 2 = PRESENT

## 15. JUVENILE PLANT GROWTH HABIT:

☐ 1 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

## 16. SEED:

☐ 1 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL ☐ 1 Cheek: 1 = ROUNDED 2 = ANGULAR  
☐ 2 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG ☐ 1 Brush: 1 = NOT COLLARED 2 = COLLARED  
☐ 4 Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN  
 4 = BROWN 5 = BLACK  
☐ 3 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) \_\_\_\_\_  
☐ 0 ☐ 6 MM. LENGTH ☐ 0 ☐ 3 MM. WIDTH ☐ \_\_\_\_\_ GM. PER 1000 SEEDS

## 17. SEED CREASE:

☐ 1 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'  
 2 = 80% OR LESS OF KERNEL 'CHRIS'  
 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'  
☐ 1 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'  
 2 = 35% OR LESS OF KERNEL 'CHRIS'  
 3 = 50% OR LESS OF KERNEL 'LEMHI'

## 18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 2 STEM RUST (Race) OFBS ☐ 2 LEAF RUST (Race) unknown ☐ 0 STRIPE RUST (Race) ☐ 0 LOOSE SMUT  
☐ 1 TNMH, TNMK ☐ 0 POWDERY MILDEW ☐ 0 BUNT ☐ \_\_\_\_\_ OTHER (Specify) \_\_\_\_\_

## 19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 0 SAWFLY ☐ 0 APHID (Bydv.) ☐ 0 GREEN BUG ☐ 0 CEREAL LEAF BEETLE  
☐ \_\_\_\_\_ OTHER (Specify) \_\_\_\_\_ HESSIAN FLY RACES: ☐ 1 GP ☐ 0 A ☐ 1 B ☐ 0 C  
☐ 0 D ☐ 0 E ☐ 0 F ☐ 0 G

## 20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Centurk	Seed size	Centurk
Leaf size	Centurk	Seed shape	Centurk
Leaf color	Centurk	Coleoptile elongation	Centurk
Leaf carriage	Centurk	Seedling pigmentation	Centurk

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

APR 12 1985

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## EXHIBIT D

ADDITIONAL DESCRIPTION OF THE VARIETY

Rodeo is a cultivar of Triticum aestivum L. with winter growth habit. The kernels are hard, red, and ovate in shape with rounded cheeks. The brush is midlong. The spike is awned, middense, and fusiform in shape. The glumes are white, glabrous, midlong, and midwide. The shoulder shape is primarily oblique. Beaks are acuminate and 3-6 mm long.

Rodeo is a tall semidwarf with plant height usually 2-3 cm shorter than Centurk or Centurk 78, and 6-8 cm taller than Vona. Relative maturity is medium early. On the average Rodeo will head 1-2 days earlier than Centurk.

The coleptile color is white and seedling anthocyanin is absent. Juvenile plant growth is semi-prostrate. Plant color is green. Waxy bloom is present on the stem and flag leaf sheath. Normally three nodes originate from the node above ground. The flag leaf is erect at early boot and twisted.

Seedling reactions of Rodeo to physiologic races of Puccinia graminis f. sp. tritici have been conducted by the Cereal Rust laboratory. The following infection types have been observed:

<u>Isolate</u>	<u>Reaction to Isolate</u>
<u>15B-2</u>	
TNMH	;
TNMK	0;
<u>151</u>	
QFBS	0
QSHS	2-
<u>11-32-113</u>	
RHRS	2-
RSHS	2-
RTQQ	2-
RTQS	2-

Field ratings for leaf rust (P. recondita) have been resistant to moderately susceptible with a very low severity. Rodeo is susceptible to soil borne mosaic virus and Hessian Fly (Mayetiola destructor Say), the Great Plains biotype.

Overall milling and baking quality is satisfactory. Absorption has been slightly greater than absorption for Centurk. Bake mix time, however, is lower than that for Centurk.

# ASSIGNMENT

8500106

WHEREAS, Rohm and Haas Seeds Inc., a Delaware corporation, with its principal offices at Independence Mall West, Philadelphia, Pennsylvania 19105 ("Rohm and Haas Seeds"), is the owner of the entire right, title and interest to the following varieties, U.S. Plant Variety Certificates and applications therefore:

<u>Variety</u>	<u>Certificate No.</u>	<u>Grant Date</u>
Prodax	7500005	06/30/75
Solar	7800010	03/29/79
711	8100013	12/10/81
Walera	8200002	06/17/82
715	8300068	01/31/86
835	8200006	03/11/82
817	8200033	06/17/82
830	8200094	09/23/82
Norak	8500105	03/11/88

	<u>Application No.</u>	<u>Filing Date</u>
Bighorn	8500109	04/12/85
Pony	8500107	04/12/85
✓ Rodeo	8500106	04/12/85

WHEREAS, HybriTech Seed International, Inc., a Delaware corporation and wholly-owned subsidiary of Monsanto Company, with its principal offices at 800 North Lindbergh Boulevard, St. Louis, Missouri 63167 ("HybriTech") is desirous of acquiring the entire interest in the aforementioned varieties, certificates and applications;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Rohm and Haas Seeds does hereby sell, assign and transfer unto HybriTech, the entire right, title and interest in and to the varieties, certificates and applications for its use and benefit and for its successors and assigns.

IN TESTIMONY WHEREOF, Rohm and Haas Seeds intending to be legally bound has caused this assignment to be executed by its duly authorized officer.

ROHM AND HAAS SEEDS INC.

By Harold G. Mykay Jr.  
 Title Vice President

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8500106

COMMONWEALTH OF PENNSYLVANIA )  
 ) SS  
COUNTY OF PHILADELPHIA )

On this 25 day of July, 1988, before me appeared  
Howard A. Mergelkamp Jr. of Rohm and Haas Seeds  
Inc., the person who signed this instrument, who acknowledged  
that he signed it as a free act on behalf of Rohm and Haas  
Seeds, Inc. with authority to do so.

Elaine Sherman  
Notary Public

ELAINE SHERMAN  
Notary Public, Phila., Phila. Co.  
My Commission Expires June 1, 1992

